

CLAIMS

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1. A semiconductor construction, comprising:
  - a semiconductor substrate;
  - a first layer comprising silicon and nitrogen over the substrate;
  - a second layer comprising at least 50 weight% carbon over and physically against the first layer; and
  - a third layer consisting essentially of a photoresist system over and physically against the second layer.
2. The construction of claim 1 wherein the first layer comprises silicon, oxygen and nitrogen.
3. The construction of claim 1 wherein the first layer consists essentially of silicon oxynitride.
4. The construction of claim 1 wherein the second layer comprises carbon-hydrogen bonds.
5. The construction of claim 1 wherein the second layer comprises a surfactant.

6. The construction of claim 1 wherein the second layer comprises a polymer.
7. The construction of claim 1 wherein the second layer comprises a cross-linked polymer.
8. The construction of claim 1 wherein the second layer comprises an acrylic polymer.
9. The construction of claim 1 wherein the second layer comprises a component that absorbs light having a wavelength within a region from 150 nanometers to 250 nanometers.
10. The construction of claim 1 wherein the photoresist system comprises a chemically-amplified photoresist.

11. A semiconductor construction, comprising:
  - a semiconductor substrate;
  - a first layer comprising silicon and nitrogen over the substrate;
  - a second layer over and physically against the first layer, the second layer being an organic material comprising carbon-hydrogen bonds; and
  - a third layer consisting essentially of a photoresist system over and physically against the second layer.
12. The construction of claim 11 wherein the first layer comprises silicon, oxygen and nitrogen.
13. The construction of claim 11 wherein the first layer consists essentially of silicon oxynitride.
14. The construction of claim 11 wherein the second layer comprises a polymer.
15. The construction of claim 11 wherein the second layer comprises a cross-linked polymer.

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16. The construction of claim 11 wherein the second layer comprises an acrylic polymer.

17. The construction of claim 11 wherein the second layer comprises a component that absorbs light having a wavelength within a region from 150 nanometers to 250 nanometers.

18. The construction of claim 11 wherein the photoresist system comprises a chemically-amplified photoresist.

19. A method of forming a semiconductor construction, comprising:  
providing a semiconductor substrate;  
forming a first layer comprising silicon and nitrogen over the substrate;  
forming a second layer comprising at least 50 weight% carbon over and physically against the first layer; and  
forming a third layer consisting essentially of a photoresist system over and physically against the second layer.

20. The method of claim 19 further comprising exposing the photoresist system to patterned light and subsequently heating the photoresist system; the second layer releasing acid into the photoresist system during the heating; after the heating, exposing the photoresist system to a developing solvent.

21. The method of claim 19 wherein the first layer comprises silicon, oxygen and nitrogen.

22. The method of claim 19 wherein the first layer consists essentially of silicon oxynitride.

23. The method of claim 19 wherein the forming the second layer comprises spin-coating the second layer across the first layer.

24. The method of claim 19 wherein the second layer comprises a surfactant.

25. The method of claim 19 wherein the second layer comprises a polymer.

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26. The method of claim 19 wherein the second layer comprises a cross-linked polymer.

27. The method of claim 19 wherein the second layer comprises an acrylic polymer.

28. The method of claim 19 wherein the second layer comprises a component that absorbs light having a wavelength within a region from 150 nanometers to 250 nanometers.

29. A method of forming a semiconductor construction, comprising:

- providing a semiconductor substrate;
- forming a first layer comprising silicon and nitrogen over the substrate;
- forming a second layer comprising at least 50 weight% carbon over the first layer;
- forming a third layer consisting essentially of a photoresist system over and physically against the second layer;
- exposing a first portion of the third layer radiation while not exposing a second portion to the radiation;
- subjecting the third layer to conditions which cause either the exposed first portion or unexposed second portion of the photoresist system to release acid; the second layer also releasing acid as the third layer is exposed to the conditions; and
- after subjecting the third layer to the conditions, removing either the first or second portion selectively relative to the other of the first and second portion.

30. The method of claim 29 wherein the conditions which cause either the exposed first portion or unexposed second portion of the photoresist system to release acid comprise heating of the third layer to a temperature of at least about 90°C.

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31. The method of claim 29 wherein the first layer comprises silicon, oxygen and nitrogen.
32. The method of claim 29 wherein the first layer consists essentially of silicon oxynitride.
33. The method of claim 29 wherein the forming the second layer comprises spin-coating the second layer across the first layer.
34. The method of claim 29 wherein the second layer comprises a surfactant.
35. The method of claim 29 wherein the second layer comprises a polymer.
36. The method of claim 29 wherein the second layer comprises a cross-linked polymer.
37. The method of claim 29 wherein the second layer comprises an acrylic polymer.



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38. The method of claim 29 wherein the second layer comprises a component that absorbs light having a wavelength within a region from 150 nanometers to 250 nanometers.